

## Claims

We claim:

1. A method for performing IP telephony, comprising:
  - 5 receiving a Call Setup request, wherein the Call Setup request comprises a source IP address and a destination telephone number;
  - selecting a first Media Gateway based on the source IP address;
  - selecting a second Media Gateway based on the destination telephone number;
  - comparing a public IP address of the first Media Gateway to a public IP address
  - 10 of the second Media Gateway;
  - if the public IP address of the first Media Gateway is the same as the public IP address of the second Media Gateway, selecting a private IP address of the first Media Gateway and a private IP address of the second Media Gateway for Call Setup; and
  - if the public IP address of the first Media Gateway is not the same as the public IP
  - 15 address of the second Media Gateway, selecting the public IP address of the first Media Gateway and the public IP address of the second Media Gateway for Call Setup.
2. The method of claim 1, further comprising:
  - 20 sending the selected IP address of the first Media Gateway to the second Media Gateway; and
  - sending the selected IP address of the second Media Gateway to the first Media Gateway.
3. The method of claim 2, further comprising:
  - 25 the first Media Gateway sending data to the second Media Gateway using the selected IP address of the second Media Gateway; and
  - the second Media Gateway sending data to the first Media Gateway using the selected IP address of the first Media Gateway.

4. The method of claim 1, further comprising:

registering the first Media Gateway prior to said receiving, wherein said registering the first Media Gateway comprises receiving and storing the public IP address of the first Media Gateway; and

5 registering the second Media Gateway prior to said receiving, wherein said registering the second Media Gateway comprises receiving and storing the public IP address of the second Media Gateway.

10 5. The method of claim 4, wherein said registering the first Media Gateway further comprises receiving and storing a private IP address of the first Media Gateway.

15 6. The method of claim 4, wherein said registering the second Media Gateway further comprises receiving and storing a private IP address of the second Media Gateway.

20 7. The method of claim 1, wherein the first Media Gateway and the second Media Gateway each comprise one of an IP telephone or a Trunking Gateway, wherein the Trunking Gateway comprises an interface to the Public Switched Telephone Network (PSTN).

8. A system for performing IP telephony, comprising:

a network;

a first Media Gateway;

25 a second Media Gateway, wherein the second Media Gateway is operable to couple to the first Media Gateway through the network; and

a Media Gateway Controller, wherein the Media Gateway Controller is operable to couple to the first Media Gateway and the second Media Gateway through the network;

wherein the first Media Gateway is operable to send a Call Setup request to the Media Gateway Controller, wherein the Call Setup request comprises a source IP address and a destination telephone number;

wherein the Media Gateway Controller is operable to:

5           receive a Call Setup request;  
          select a first Media Gateway based on the source IP address;  
          select a second Media Gateway based on the destination telephone  
number;

          compare a public IP address of the first Media Gateway to a public IP  
10   address of the second Media Gateway;

          if the public IP address of the first Media Gateway is the same as the  
public IP address of the second Media Gateway, select a private IP address of the first  
Media Gateway and a private IP address of the second Media Gateway for Call Setup;  
and

15           if the public IP address of the first Media Gateway is not the same as the  
public IP address of the second Media Gateway, select the public IP address of the first  
Media Gateway and the public IP address of the second Media Gateway for Call Setup.

9.       The system of claim 8, wherein the Media Gateway Controller is further  
20   operable to:

          send the selected IP address of the first Media Gateway to the second Media  
Gateway; and

          send the selected IP address of the second Media Gateway to the first Media  
Gateway.

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10.      The system of claim 9,

          wherein the first Media Gateway is operable to send data to the second Media  
Gateway using the selected IP address of the second Media Gateway; and

wherein the second Media Gateway is operable to send data to the first Media Gateway using the selected IP address of the first Media Gateway.

11. The system of claim 8, wherein the Media Gateway Controller is further  
5 operable to:

register the first Media Gateway prior to said receiving, wherein, in registering the first Media Gateway the Media Gateway Controller is operable to receive and store the public IP address of the first Media Gateway; and

10 register the second Media Gateway prior to said receiving, wherein, in registering the second Media Gateway the Media Gateway Controller is operable to receive and store the public IP address of the second Media Gateway.

12. The system of claim 11, wherein, in registering the first Media Gateway the Media Gateway Controller is further operable to receive and store a private IP address  
15 of the first Media Gateway.

13. The system of claim 11, wherein, in registering the second Media Gateway the Media Gateway Controller is further operable to receive and store a private IP address of the second Media Gateway.  
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14. The system of claim 8, wherein the first Media Gateway and the second Media Gateway each comprise one of an IP telephone or a Trunking Gateway, wherein the Trunking Gateway comprises an interface to the Public Switched Telephone Network (PSTN).  
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15. A memory medium, wherein the memory medium stores program instructions which are executable to perform:

receiving a Call Setup request, wherein the Call Setup request comprises a source IP address and a destination telephone number;

selecting a first Media Gateway based on the source IP address;  
selecting a second Media Gateway based on the destination telephone number;  
comparing a public IP address of the first Media Gateway to a public IP address  
of the second Media Gateway;

5           if the public IP address of the first Media Gateway is the same as the public IP  
address of the second Media Gateway, selecting a private IP address of the first Media  
Gateway and a private IP address of the second Media Gateway for Call Setup; and

          if the public IP address of the first Media Gateway is not the same as the public IP  
address of the second Media Gateway, selecting the public IP address of the first Media  
10   Gateway and the public IP address of the second Media Gateway for Call Setup.

16.    The memory medium of claim 15, wherein the program instructions are  
further executable to perform:

          sending the selected IP address of the first Media Gateway to the second Media  
15   Gateway; and

          sending the selected IP address of the second Media Gateway to the first Media  
Gateway.

17.    The memory medium of claim 16,  
20    wherein the selected IP address of the second Media Gateway is useable by the  
first Media Gateway to send data to the second Media Gateway; and

          wherein the selected IP address of the first Media Gateway is useable by the  
second Media Gateway to send data to the first Media Gateway.

25    18.   The memory medium of claim 15, wherein the program instructions are  
further executable to perform:

          registering the first Media Gateway prior to said receiving, wherein said  
registering the first Media Gateway comprises receiving and storing the public IP address  
of the first Media Gateway; and

registering the second Media Gateway prior to said receiving, wherein said registering the second Media Gateway comprises receiving and storing the public IP address of the second Media Gateway.

5           19.    The memory medium of claim 18, wherein said registering the first Media Gateway further comprises receiving and storing a private IP address of the first Media Gateway.

10           20.    The memory medium of claim 18, wherein said registering the second Media Gateway further comprises receiving and storing a private IP address of the second Media Gateway.

15           21.    The memory medium of claim 15, wherein the first Media Gateway and the second Media Gateway each comprise one of an IP telephone or a Trunking Gateway, wherein the Trunking Gateway comprises an interface to the Public Switched Telephone Network (PSTN).